

Lexington's New Sidewalk Prioritization Tool

**Presented to
Board of Selectmen
July 31, 2017**



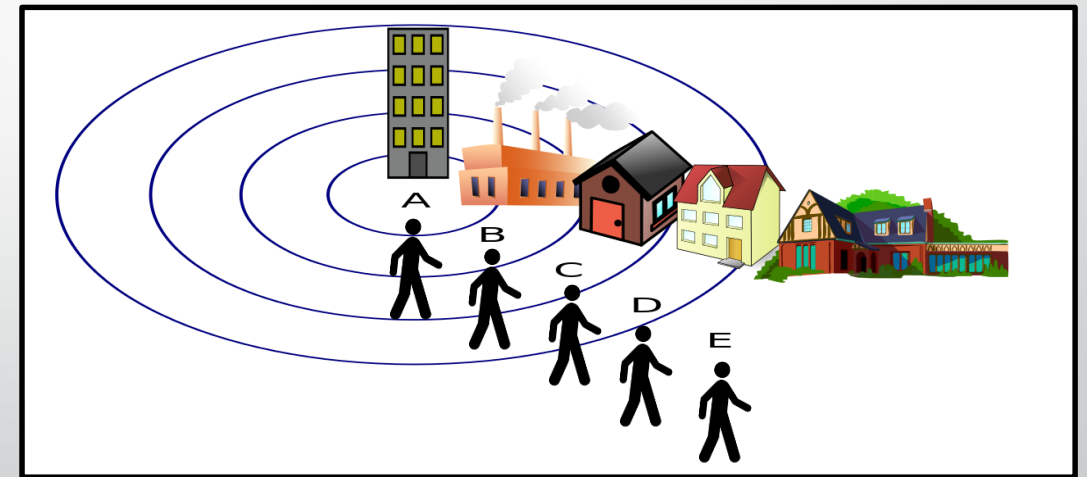
Prospect Hill Road Sidewalk Installation

New Sidewalk Prioritization

GOAL - Create an objective tool that will help prioritize new sidewalk requests in a quantitative manner to ensure that sidewalks are constructed where existing need and potential for pedestrian traffic is greatest while considering limited Town resources.

Pedestrian activity is directly attributable to factors such as:

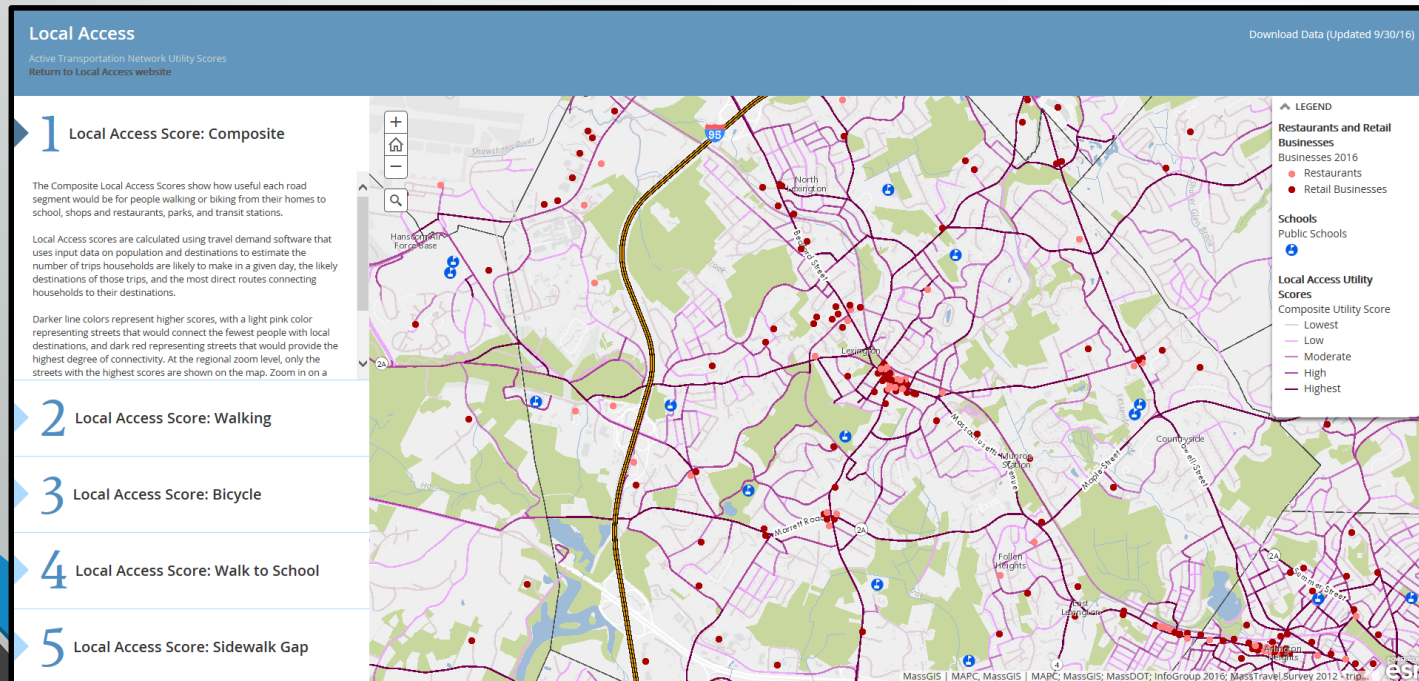
- Mix of Land Uses
- Proximity to Local Destinations
- Density of Development



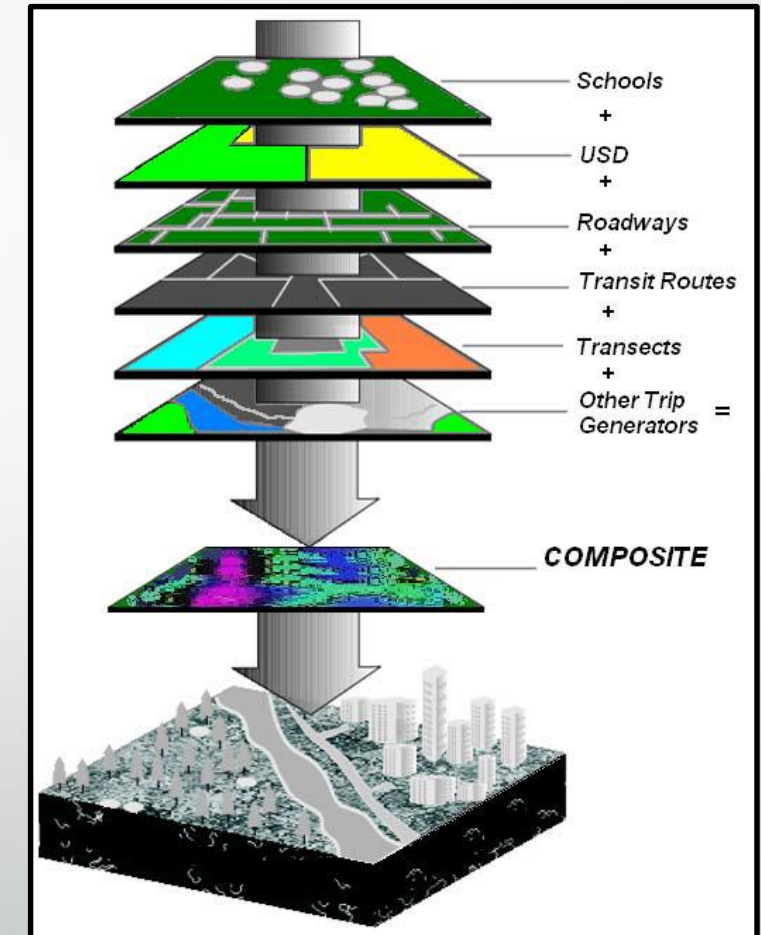
The greater the intensity of these factors, the higher the potential for walking, and the greater the need for pedestrian facilities.

Other Prioritization Rating Systems

- Town of Bedford
- Town of Middleton
- Nashville-Davidson County
- Metropolitan Area Planning Council (MAPC)



MAPC Local Access

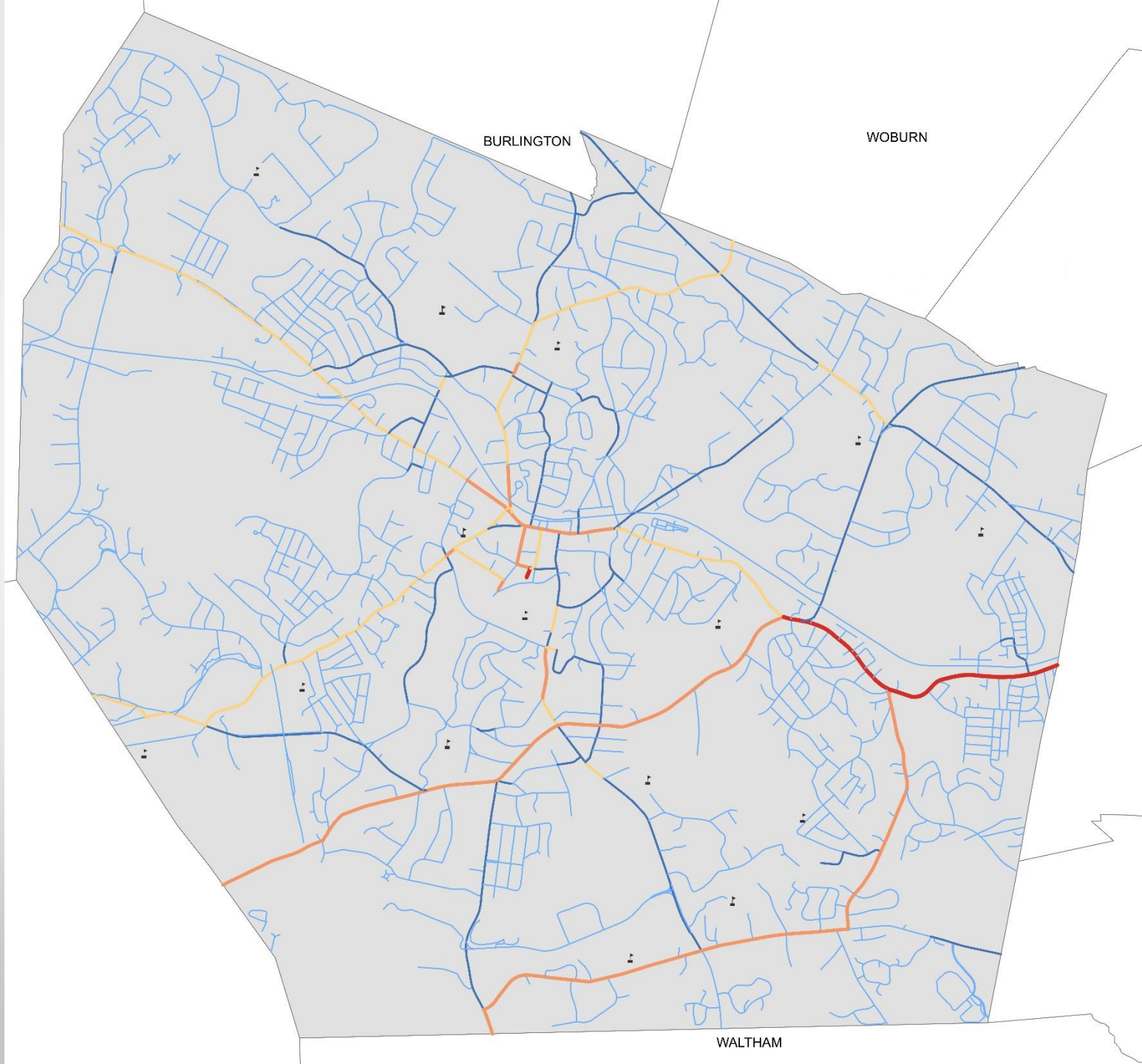
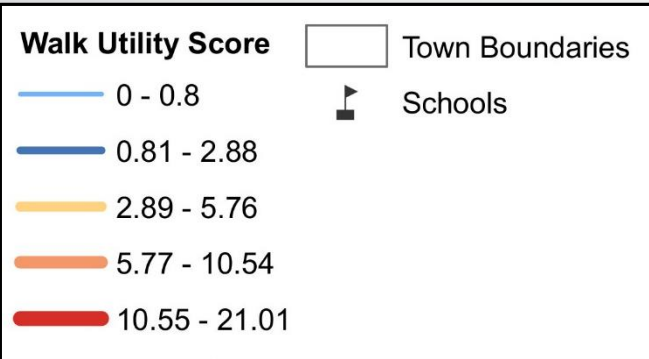


Nashville-Davidson County
Quantitative Overlay System

MAPC

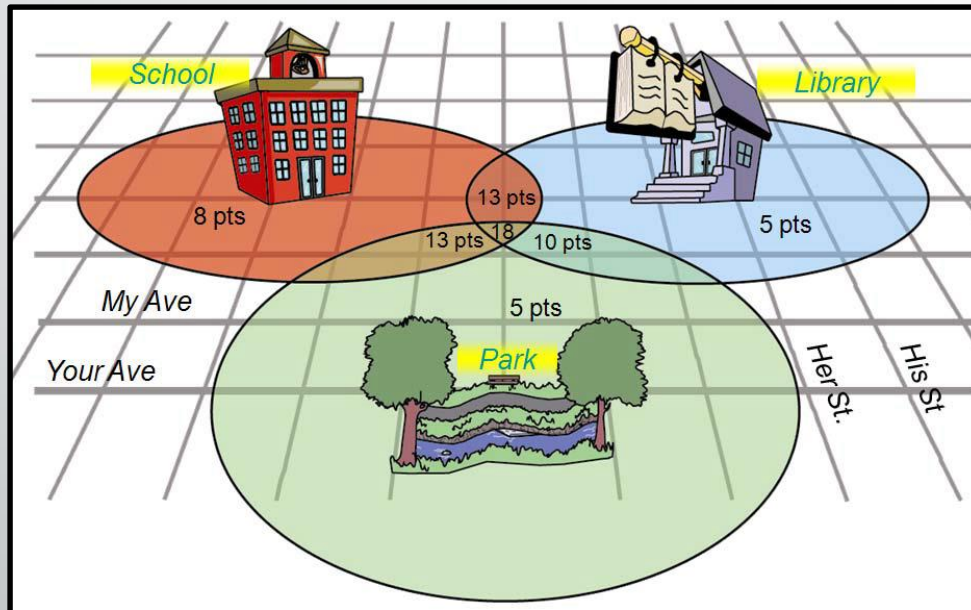
Local Access Data

Walk Utility Score

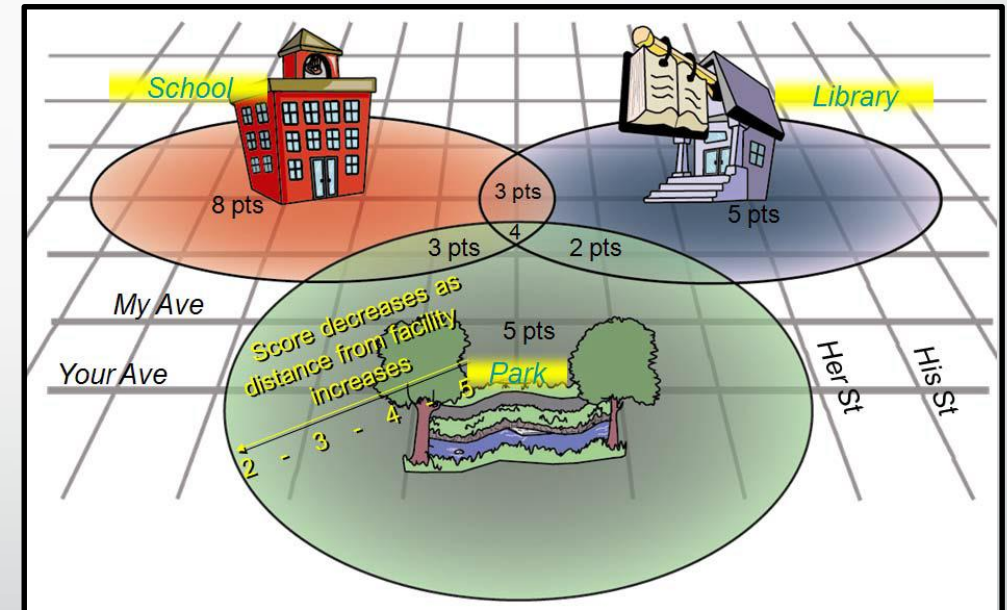


Quantitative Overlay System

Methodology of overlapping a series of maps, each representing one of several characteristics that most affect the potential for walking. Each characteristic is assigned a number value based on its importance or potential for a given condition in order to determine the cumulative intensity of all characteristics at a specific location.



Sidewalk Priority Index
Static Scoring can Inflate Scores at
Trip Generator Overlaps



Pedestrian Generator Index (PGI)
Inverse Weighted Scoring

Trip Generators

- Public & Private Schools (centroid of building structures)
- Civic Buildings (centroid of building structures)
- Retail Establishments (centroid of building structures)
- Parks & Recreation Areas (playground & park entrances)
- Conservation Land (trailheads)
- Senior Living Facilities (centroid of building structures)
- Affordable Housing (centroid of building structures)
- Minuteman Bikeway (intersections with local roadways)
- MBTA Bus Routes (bus stop locations)
- Lexpress Service (shuttle routes)
- Roadway Functional Classification

Lexington's Prioritization Score Without Screening

Prioritization Score

1 - 7

8 - 12

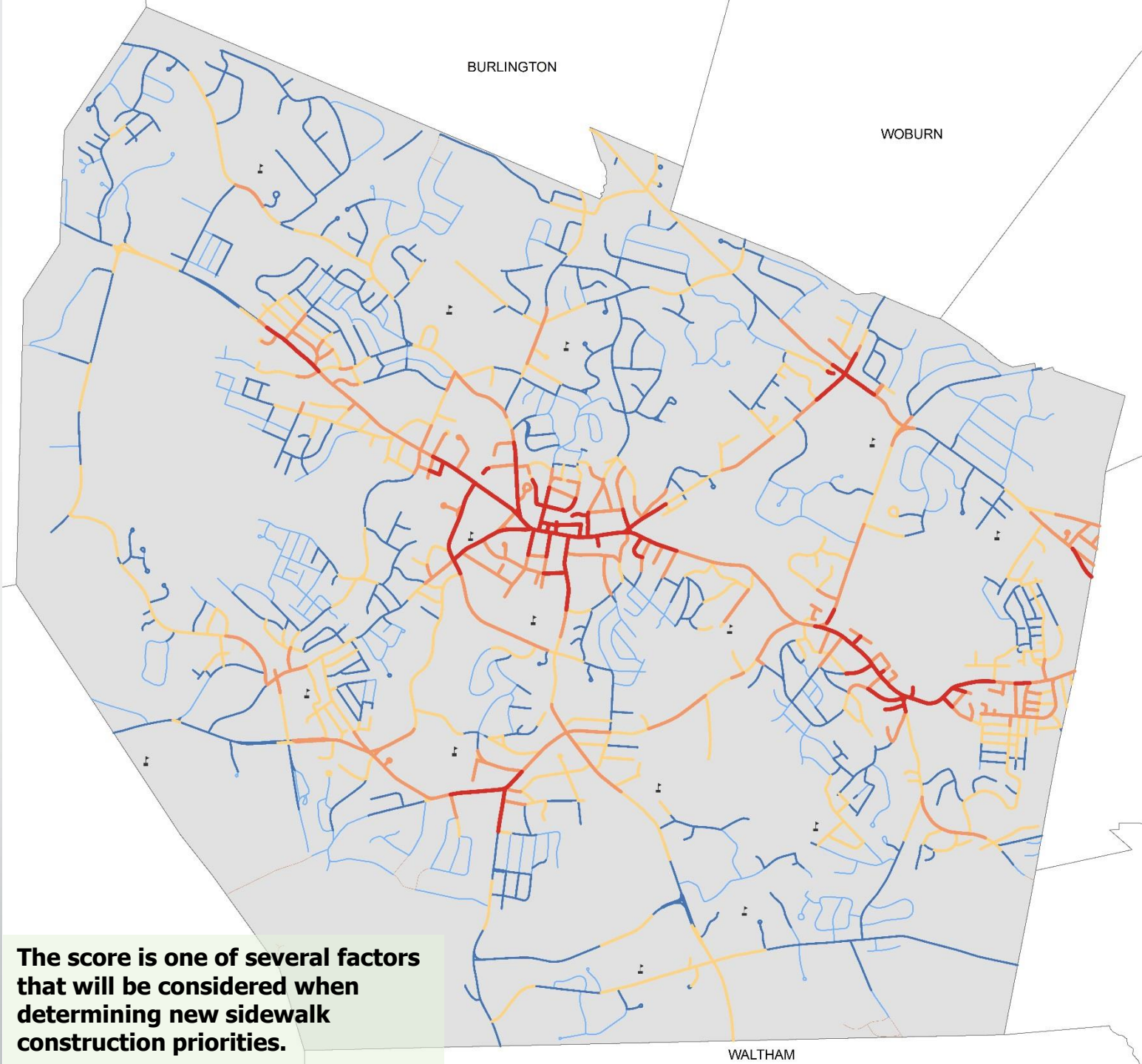
13 - 18

19 - 24

25 - 34

Town Boundaries

School/Daycare



The score is one of several factors that will be considered when determining new sidewalk construction priorities.

Screening

- State Owned Roadways
- Streets with existing sidewalks (at least one side)
- Unaccepted Streets
- Cul-de-sacs and Dead Ends



Marrett Road (Route 2A)



Hayden Avenue

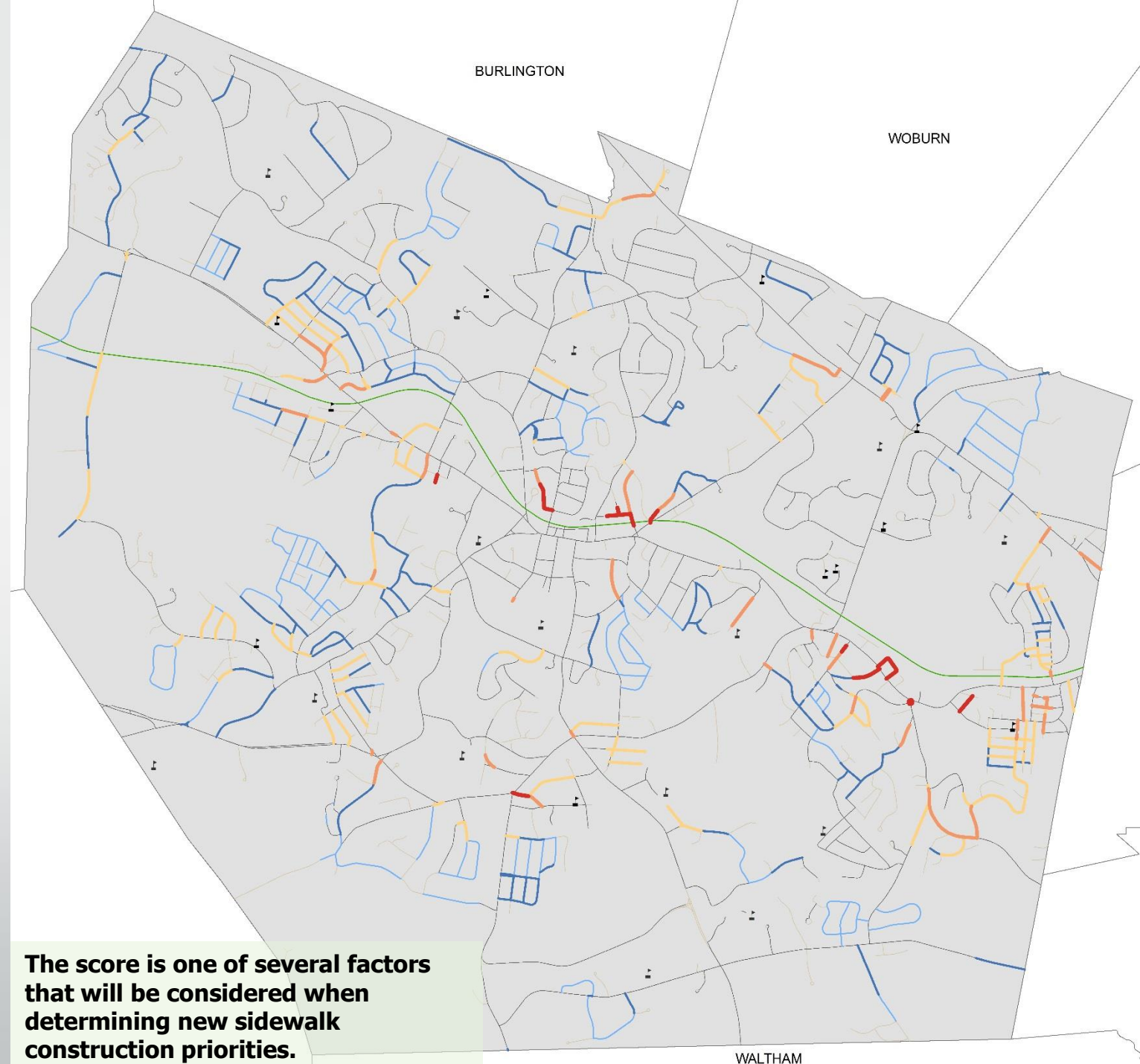
Lexington's Prioritization Score With Screening

Prioritization Score

-  1 - 7
-  8 - 12
-  13 - 18
-  19 - 24
-  25 - 34

Existing Infrastructure

-  Existing Way
-  Existing Sidewalk
-  Minuteman Bikeway
-  Town Boundaries
-  School/Daycare



The score is one of several factors that will be considered when determining new sidewalk construction priorities.

Sidewalk Decision Making Factors

In addition to utilizing the score, additional factors will be considered to prioritize new sidewalk requests. A value system is being developed for some of these items as well.

- Connectivity
 - Connects gaps in network
 - Extends overall network
- Roadway Characteristics
 - Widths
 - Grades
 - Sightlines
 - Available Right-of-Way (property takings)
- Crash History
- Environmental Factors
 - Proximity to wetlands
 - Existence of significant ledge
 - Requires substantial filling
- Capital Improvement Plan
 - Consider incorporating into future roadway work

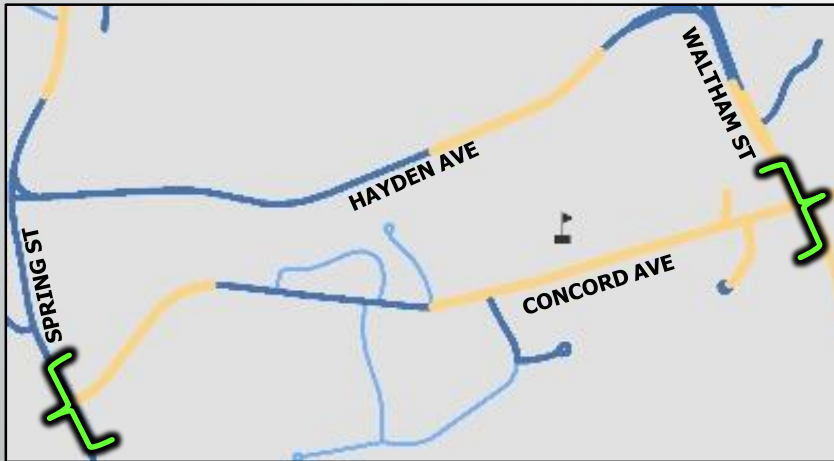


Prospect Hill Road Sidewalk Installation

New Sidewalk Installations

The sidewalks identified below were recently installed or are in the process of being constructed. The decision to construct appears to be justified when considering the prioritization scores combined with the other factors noted earlier.

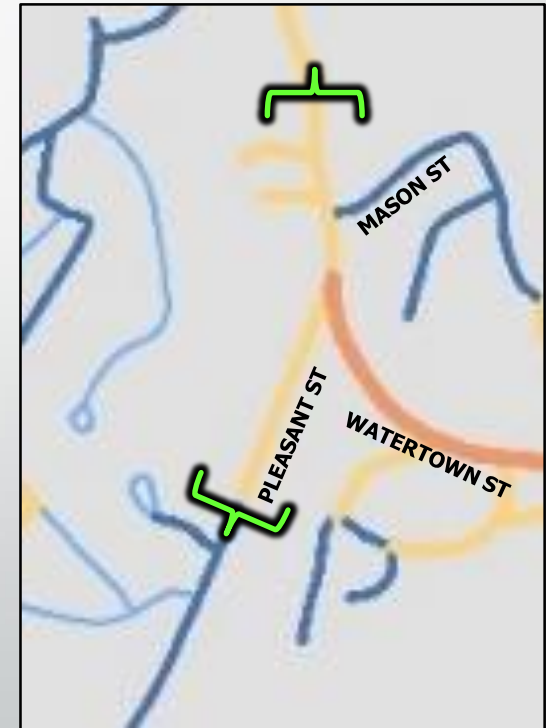
Concord Avenue
(Spring to Waltham)



Prospect Hill Road
(Marrett to Wachusett)



Pleasant Street
(41-93 Pleasant)



Other Potential Applications

- Prioritize on-street bike accommodations
- Expand scope to include potential pedestrian and bike trip generators outside Town boundaries
- Evaluate sidewalk placement on opposite side of roadways which already have a sidewalk
- Resource for other ongoing Town initiatives (e.g. ACROSS Lexington)

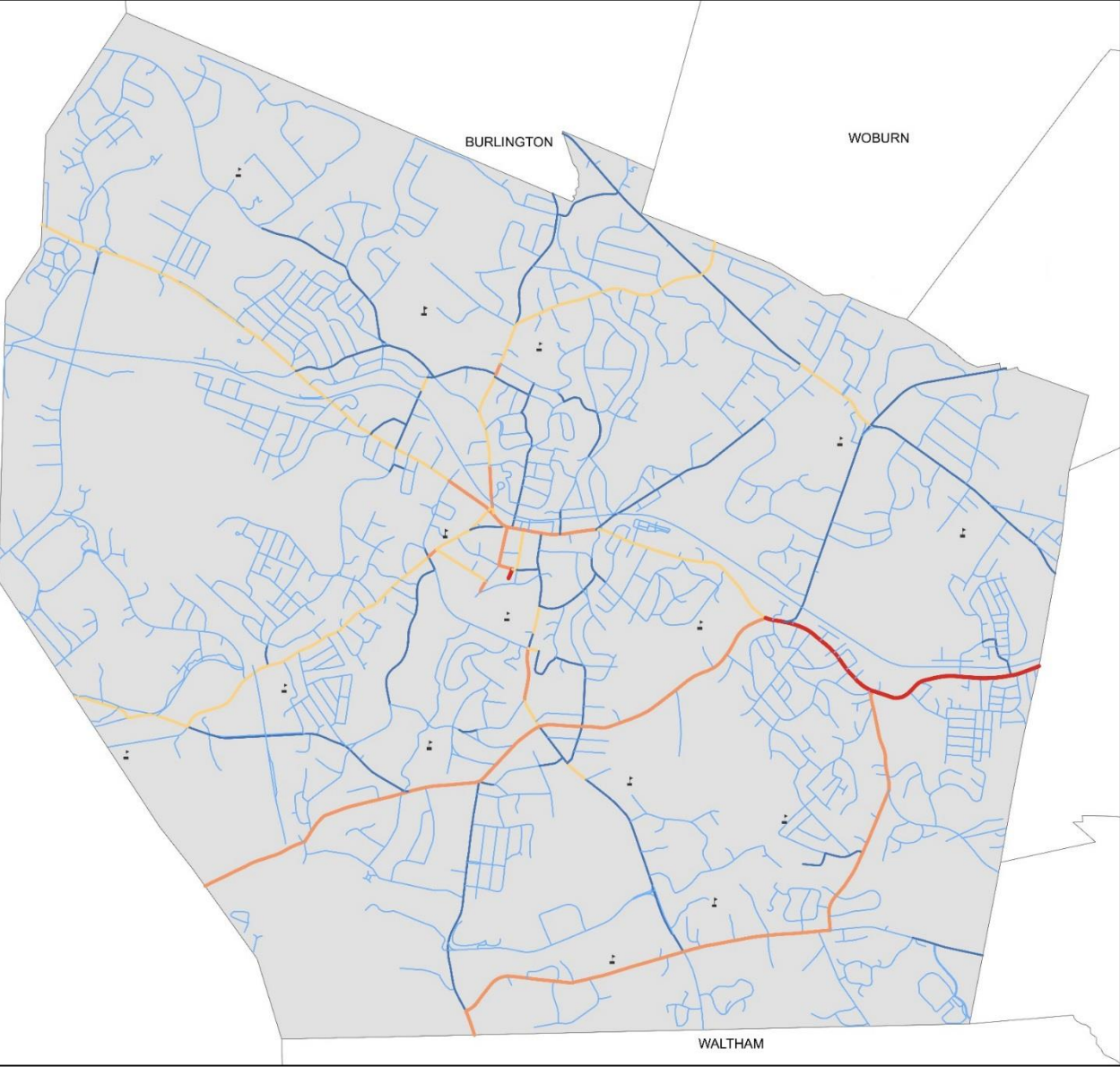


Massachusetts Avenue



Bedford Street

**MAPC
Local Access Data
Walk Utility Score**



**Lexington's
Prioritization Score
Without Screening**

